SECTION 23 81 46
WATER TO AIR HEAT PUMPS
Design Standard

PART 1 GENERAL

1.1 PURPOSE

A. Water to air heat pumps are an essential element of the mechanical space ventilation, cooling, and heating systems. This design standard has the purpose of creating a consistent application of water to air heat pump requirements throughout the San Mateo County Community College District therefore achieving a standard of quality for maintenance, energy efficiency, and reliability throughout all renovation and new building projects.

PART 2 PRODUCTS

2.1 Design and specify work to include materials, installation and testing of water to air heat pump units for a complete and operating system

A. Water source and geothermal heat pumps shall be provided with ECM motors and two stage compressors (where available by size).

B. Consider utilizing free cooling economizer coil system.

C. Horizontal/vertical water source heat pump: Each unit ARI rated, ETL and CSA listed as a horizontal/vertical water source heat pump. Each unit fully tested at the factory. Each unit to include the refrigeration system, fan assembly, motor, DDC controls with interface to campus wide controls system.

D. Console water source heat pump: Furnish and install water source heat pump units. Each unit ARI rated and ETL and CSA listed. The unit to consist of a subbase/backwrap for floor mounting and attachment to the back wall or floor, a cabinet front capable of attachment to the backwrap and a slide-out chassis for mounting on the subbase. The chassis to include the refrigeration system, fan assembly, motor, DDC controls with interface to campus wide controls system.

E. Horizontal/vertical geothermal water source heat pump: Each unit ARI rated, ETL and CSA listed as a horizontal/vertical geothermal water source heat pump. Each unit fully tested at the factory. Each unit to include the refrigeration system, fan assembly, motor, DDC controls with interface to campus wide controls system

2.2 APPROVED MANUFACTURERS

A. Water Source Heat Pumps:

1. Carrier
2. Climate Master
3. Florida Heat Pump
4. Trane
5. McQuay

B. Geothermal Water Source Heat Pumps:

1. Climate Master
2. Florida Heat Pump
3. Waterfurnace

PART 3 EXECUTION

3.1 SUBSTITUTES ALLOWED?

Yes, if performance and quality equivalency can be evidenced.

3.2 ASSOCIATED DESIGN STANDARDS AND CONSTRUCTION SPECIFICATIONS:

23 05 29 - Hangers and Supports for HVAC Piping and Equipment
23 05 48 - Vibration and Seismic Controls for HVAC Piping and Equipment
23 05 53 - Identification for HVAC Piping and Equipment
23 05 93 - Testing, Adjusting and Balancing
23 31 00 – Ductwork
23 62 00 - Refrigeration

END OF SECTION